

Reynov, N. M.

USSR/Physics - Zeeman's effect

Card 1/1 Pub. 22 - 10/45

Authors : Gross, E. F., memb. corresp. of the Acad. of Scs. of the USSR; Zakharchenya, B. P.; and Reynov, N. M.

Title : Zeeman's effect in the spectrum of the exciton of cuprous-sulfate crystals

Periodical : Dok. AN SSSR 99/4, 527-528, Dec 1, 1954

Abstract : A study of the causes of existence of an abundant number of absorption lines in the spectrum "of the  $\text{Cu}_2\text{O}$ " exciton (combination of a hole and an electron) is described. The study was conducted with the help of a wide dispersion spectral apparatus in a strong magnetic field. Four USSR references (1952-1954). Table; illustrations.

Institution : Leningrad Physico-Technical Institute of the Acad. of Scs. of the USSR

Submitted : ...

... ..  
KRYLOV, N. I.: "The electrical properties of 'leugas' and its use  
in industry". Leningrad, 1955. Acad Sci USSR. Leningrad Physicotechnical  
Inst. (Dissertation for the Degree of Doctor of TECHNICAL Sciences)

SO: Knizhnaya Letopis' No. 51, 10 December 1955

KOMAR, A.P.; REYNOV, N.M.; AHLTYT, S.S.

Investigation of photomagnetoelectric effect in cuprous oxide at low temperatures. Izv.AN SSSR.Ser.fiz. 19 no.4:444-446 J1-Ag '55. (MIRA 9:1)

1.Fiziko-tekhnicheskiy institut Akademii nauk SSSR.  
(Copper oxide--Electric properties) (Photoelectricity) (Low temperature research)

BOGORODITSKIY, N.P., doktor tekhnicheskikh nauk, professor. (Leningrad);  
~~REYNOV, N.M.~~, kandidat tekhnicheskikh nauk. (Leningrad);  
~~CHERNYAYEV, Yu.S.~~, inzhener (Leningrad).

100 kv gas-filled prototype capacitor. Elektrichestvo no.1:

68-71 Ja '56.

(MLRA 9:3)

(Condensers (Electricity))

REYNOV, N.M.

page 1 of 1  
1-PMZ

Zeeman effect in the yellow series of exciton or a cuprous oxide crystal. B. P. Cross, B. P. Zakharchevyn, and N. M. Reynov (Phys.-Tech. Inst., Acad. Sci. S.S.S.R., Leningrad.) *Zhur. Tekh. Fiz.* 26, 700-1 (1960).--In addn. to previous investigations of the absorption lines of  $\text{Cu}_2\text{O}$  crystals (cf. C.A. 50, 69304) the Zeeman effect of the yellow series was measured with a spectrograph of 1.5 Å/mm. dispersion at 1.3°K. (the crystal was cooled with liquid He). In a magnetic field of 27000 oersteds, lines of the series  $n = 3, 4, 5$ , and 6 on the absorption spectrogram, in nonpolarized light, changed into doublets. The sepn. of the line  $n = 2$  was not accomplished as a result of its great width. The investigations in polarized light indicated that the doublets may be observed in both  $\pi$  and  $\sigma$  components. The distance  $\Delta\lambda$  between components of doublets was const. for all lines and was equal to the distance between  $\sigma$  components ( $\Delta\lambda = 1.0 \text{ Å.}$ ) of the first line of the series. The lines of the series sepp. in a magnetic field were displaced toward the short wave lengths, relative to their initial position in the absence of the magnetic field. The displacement was increased with the quantum no. of the line, for  $n = 5$  it was 0.5 Å. in a magnetic field of 27000 oersteds. Paul Palliyenko

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| PRIKHOTKO, N F                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |     |
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| L'vov. Universytet                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |     |
| Materialy X Vsesoyuznogo sveshchaniya po spektroskopii. t. 1: Molekulyarnaya spektroskopiya (Papers of the 10th All-Union Conference on Spectroscopy. Vol. 1: Molecular Spectroscopy) [L'vov] Izd-vo L'vovskogo univ-ta, 1957. 499 p. 4,000 copies printed. (Series: Its: Fizichnyy zbirnyk, vyp. 3/8/)                                                                                                                                                                                                                                                                                                                                                                                                                    |     |
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REYNOV, N. M.

Zee-man effect in the yellow series of exciton of cuprous  
oxide crystal. E. F. Gross, B. P. Zakharchenya, and N. M.  
Reinov. *Soviet Phys. Tech. Phys.* 1, 677-80 (1957) (English  
translation).—See C.A. 51, 2390b. H. M. R.

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7-7

GROSS, Ye.F.; ZAKHARCHENYA, B.P.; RMYNOV, N.M.

Zeeman effect in the exciton spectra of cuprous oxide crystals.  
Fiz. sbor. no.3:38-39 '57. (MIRA 11:8)

1. Fiziko-tekhnicheskii institut AN SSSR.  
(Copper oxides--Spectra) (Excitons) (Magneto-optics)



REYNOV, N.M.

AUTHOR:

REYNOV, N.M., STEL'MAKH, M.F.

PA - 2596

TITLE:

Temperature Dependence of Arbitrary Magnetization in Ferrites Co-Zn at Low Temperatures. (Temperaturnaya zavisimost' samoproizvol'noy namagnichennosti v Co-Zn-ferritakh pri nizkikh temperaturakh, Russian).

PERIODICAL:

Radiotekhnika i Elektronika, 1957, Vol 2, Nr 3, pp 342 - 344 (U.S.S.R.)

Received: 5 / 1957

Reviewed: 6 / 1957

ABSTRACT:

Lecture delivered at the All-Union Conference for Semiconductors in November 1955 at Leningrad. The theory developed by Vonsovskiy and Agafonova makes it appear possible that a second type of ferromagnetic semiconductors, the "Exiton" ferromagnetica, which have two Curie points, exists. In the present work the experimental investigation of this assumption was extended to the domain of helium temperatures. Mixed Co-Zn ferrites were chosen as objects of investigation for the reason that a certain anomaly was observed with respect to their magnetic properties. The dependence on temperature of spontaneous magnetization of the Co-Zn ferrite scale with a content of ZnO of from 0 up to 0,9 within the domain of temperatures of from Curie point up to 1,3° K was investigated. The result showed that the decrease of the magnetic saturation moment in the case of a temperature drop of down to 1,3° K to be expected according to the theory by Vonsovskiy and Agafonova could not be

Card 1/2

PA - 2596

Temperature Dependence of Arbitrary Magnetization in Ferrites  
Co-Zn at Low Temperatures.

observed. Therefore, it may be assumed that the upper limit for the  
excitation energy of the excitons in these ferrites amounts to

$$\Delta E \leq 10^{-16} \text{ erg.}$$

(3 illustrations and 3 citations from Slav publications)

**ASSOCIATION:**

Leningrad Physical-Technical Institute of the Academy of Science of the U.S.S.R.

**PRESENTED BY:**

**SUBMITTED:**

**AVAILABLE:** Library of Congress.

Card 2/2

*Reynov, I.V.*  
 AUTHOR: KOGAN, A.V., REYNOV, N.M., SOKOLOV, I.A., PA - 2149  
 STEL'MAKH, M.F.

TITLE: He-filled Proportional Counters under Low Temperature  
 (Russian).

PERIODICAL: Zhurnal Tekhn. Fiz., 1957, Vol 27, Nr 2, pp 429 - 431  
 (U.S.S.R.)

Received: 3 / 1957

Reviewed: 4 / 1957

ABSTRACT: In the case of the experiments dealt with by this paper the errors committed in measuring of temperatures amounted to roughly  $\pm 2\%$ . Therefore it was assumed that at a given temperature gas density depends linearly on pressure. At more than  $4.2^{\circ}\text{K}$  helium was assumed to be a perfect gas and at  $4.2^{\circ}\text{K}$  the data mentioned in papers for the density of saturated He-vapors at 760 torr were used. Test-counters were made, the construction of which allowed a temperature- and pressure-modification of He.  $\alpha$  particles of  $\text{Po}^{210}$  were used in order to form the ionization-impulse. At  $4.22^{\circ}\text{K}$  in all cases an essentially lower value of the gas-intensification-coefficient was found than is the case with gases below normal temperature. Already in the case of a gas-intensification of the 10 - 20 order and less an independent discharge occurs in the counters. This limits the applicability of gas counters for operation

Card 1/2

PA - 2149

He-filled Proportional Counters under Low Temperature.

with orientated Larnels. In order to find out whether the reduction of gas-intensification is perhaps connected with the formation of a layer on the surface, a special construction for heating the filament by electricity was provided. The results are shown in two illustrations and they prove that the observed effect is not connected with an increased gas-purity. The experiments make it possible to conclude that the observed gas-intensification depends on the counter temperature. Since, however, existing theories exclude this, a new distribution of the potentials in the gas-space is the most probable explanation of this dependence. It is possible that this new distribution is due to the formation of a helium-film on the surface of the linement.

**ASSOCIATION:** Leningrad Institute for Technical Physics (ZFTI) of the Academy of Science of the U.S.S.R.

**PRESENTED BY:**

**SUBMITTED:** 3.7.1956.

**AVAILABLE:** Library of Congress.

Card 2/2

KOGAN, A.V.; REYNOV, N.; SOKOLOV, I.A.; STEL'MAKH, M.F.

Thermoelectron emission of ferroelectric substances. Zhur. tekhn. fiz.  
27 no.2:432-434 F '57. (MIRA 10:4)

1. Leningradskiy fiziko-tekhnicheskiy institut AN SSSR, Leningrad.  
(Thermionic emission) (Ferroelectric substances)

*Reynov, N. M.*

AUTHORS:

Ayrapetyants, A. V., Kogan, A. V.,  
Reynov, N. M., Ryvkin, S. M., Scholov, I. A.

57-27-7-29/40

TITLE:

Concerning the Use of Germanium n-p- $\alpha$ -Counters at  
Low Temperatures (Ob ispol'zovanii germaniyevykh n-p- $\alpha$ -  
schetchikov pri nizkikh temperaturakh).

PERIODICAL:

Zhurnal Tekhnicheskoy Fiziki, 1957, Vol. 27, Nr 7,  
pp. 1599-1600 (USSR)

ABSTRACT:

With reference to the paper in Zhurnal Tekhnicheskoy Fiziki, 1955, Vol. 25, Nr 11 and 1957, Vol. 27, Nr 1 some preliminary results on the investigation of the counter-properties of germanium n-p-counters at helium temperatures are reported here. The scheme of the device is described. From the table of the comparative characteristics of the n-p counters at room temperature and at helium temperature is to be seen that at the temperature of liquid helium the signal-noise ratio strongly increases. At helium temperature (as well as at room temperature) the n-p counters have a good plateau in the counter-characteristic, as well as a saturation in the curve of the dependence of the amount of the impulse on the applied voltage. There are 2 figures, 1 table and 2 references, all of which are Slavic.

Card 1/2

Concerning the Use of Germanium n-p- $\alpha$ -Counters at Low  
Temperatures

57-27-7-29/40

ASSOCIATION: Physico-Technical Institute AS USSR, Leningrad  
(Fiziko-tekhnicheskiy institut AN SSSR, Leningrad)

SUBMITTED: January 9, 1957

AVAILABLE: Library of Congress

Card 2/2      1. Radiation counters-Low temperature properties      2. Germanium-  
Applications      3. Helium (Liquid)-Applications



21(3)

SOV/56-35-5-42/56

AUTHORS: Kogan, A. V., Kul'kov, V. D., Nikitin, L. P., Reynov, N. M.,  
Sokolov, I. A., Stel'makh, M. F.

TITLE: Measurement of the  $\beta$ - $\gamma$ -Correlation of Orientated Nuclei  
(Izmereniye  $\beta$ - $\gamma$ -korrelyatsii oriyentirovannykh yader)

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, 1958,  
Vol 35, Nr 5, pp 1295-1296 (USSR)

ABSTRACT: Reference is first made to some earlier papers dealing with  
this subject. When investigating correlation, the authors  
constructed a device for the orientation of nuclei and took  
several measures for the purpose of extending the duration  
of measurements and improving their statistical accuracy.  
The main source of heat supply is thermal radiation, which  
passes through a light pipe, which is used for transmitting  
the flashes of light produced in a plastic scintillator  
during the recording of  $\beta$ -particles. The  $\beta$ -radiation asymmetry  
of  $\text{Co}^{60}$ -nuclei was measured. These cobalt nuclei were intro-  
duced into a thin superficial layer of a cesium-magnesium-  
nitrate crystal. The authors carried out their measurements

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SOV/56-35-5-42/56  
Measurement of the  $\beta$ - $\gamma$ -Correlation of Orientated Nuclei

of the  $\beta$ - $\gamma$ -angular correlation on orientated  $\text{Co}^{60}$ -nuclei. The provisional data obtained by these measurements are not in contradiction to theoretical calculations which were carried out on the basis of the conservation of combined parity. Further, the investigation of  $\beta$ - $\gamma$ -angular correlation for  $\text{Mn}^{52}$  and  $\text{V}^{48}$  is planned. The authors thank A. I. Alikhanov, Academician, and Professor S. Ya. Nikitin for placing the  $\text{Co}^{59}$  at their disposal (this element is, by the way, less well suited for measurements of the here described kind); they further express their gratitude to A. Z. Dolginov for many useful discussions, and to O. V. Larionov for the chemical separation of  $\text{Co}^{59}$ . There are 2 figures and 6 references, 1 of which is Soviet.

ASSOCIATION: Leningradskiy fiziko—tekhnicheskiy institut Akademii nauk SSSR  
(Leningrad Physico-Technical Institute of the Academy of Sciences, USSR)

SUBMITTED: July 9, 1958

Card 2/2



BOGORODITSKIY, N.P.; REYNOV, N.M.; ALEKSANDROV, L.A.

Temperature dependence of  $T_K$  of the compound  $\text{CaZrO}_3$  at liquid  
helium temperatures. Fiz. tver. tela 1 no.2:350-352 P '59.

(MIRA 12:5)

(Calcium zirconate--Electric properties)  
(Low temperature research)

24.5600

57315

~~18 (6)~~AUTHORS: Reynov, N.M., Smirnov, A. P. SOV/181-1 -8-20/32TITLE: On the Elastic Limit of Tin<sup>21</sup> and Indium<sup>1</sup>

PERIODICAL: Fizika tverdogo tela, 1959, Vol 1, Nr 8, pp 1279 - 1280 (USSR)

ABSTRACT: During some investigations carried out at temperatures of liquid helium not only new particularities in the behavior of stressed metals but also a considerable influence of temperature lowering upon the processes to be examined has been found. Therefore, a continuation of this work at extremely low temperatures is of interest. Basing on metal elastic limit measurements the possibility of tensile tests at temperatures below 1°K has been explained. The transition from the range of elastic deformation to the range of irreversible deformations was consulted to determine the elastic limit by recording heat liberation at the beginning of nonelastic sample deformation. Preliminary experiments were made with polycrystalline tin samples (residual resistivity:  $3 \cdot 10^{-3}$ ) at 0.1° - 0.3°K. Cooling was brought about by adiabatic demagnetization of a paramagnetic salt into which the cold-conductor (kholodoprovod) was pressed together with the sample soldered to it. The temperature

Card 1/2

67315

On the Elastic Limit of Tin and Indium

SOV/161-1 -8-20/32

of the sample was determined from magnetic susceptibility. With a stress of  $1.8 \text{ kg/mm}^2$  upon tin and of  $0.24 \text{ kg/mm}^2$  upon indium the samples lost superconductivity. With these stresses a nonelastic deformation probably has already been present in the samples so that the elastic limit does not exceed the above values. The authors do not have any information on publications concerning measurement of the elastic limit of tin and indium by way of low-temperature stretching. Experiments with single crystals at still lower temperatures will permit the recording of smaller heat quantities liberated during deformation and also a more accurate determination of the elastic limit. The authors thank A. V. Stepanov and V. I. Khotkevich for the discussion of the present paper. There are 1 figure and 4 references, 3 of which are Soviet.

ASSOCIATION: Fiziko-tekhnicheskiy institut AN SSSR, Leningrad (Institute of Physics and Technology of the AS USSR, Leningrad)

SUBMITTED: July 30, 1958

Card 2/2

24(0)  
AUTHOR: Chentsov, N.  
509/53-67-4-7/7  
TITLE: The Fifth All-Union Conference on the Physics of Ion Temperature (5-ye Vsesoyunnoye sobremeniye po fizike miazikh temperatur)  
PERIODICAL: Voprosy fizicheskikh nauk, 1959, Vol 67, Nr. 4. 58 743-750 (USSR)

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05/01 2002

69092

S/120/60/000/01/039/051

E032/E314

24.5600

AUTHORS: Reynov, N.M. and Smirnov, A.P.

TITLE: Determination of the Elastic Limit of Metals at Ultra-low Temperatures

PERIODICAL: Pribory i tekhnika eksperimenta, 1960, Nr 1, pp 128 - 130 (USSR)

ABSTRACT: The temperatures involved are less than  $1^{\circ}\text{K}$ . Figure 1 shows a schematic drawing of the apparatus employed to determine the elastic limit of superconducting metals by a thermal method. The very low temperatures (down to  $0.05^{\circ}\text{K}$ ) were obtained by adiabatic demagnetisation of a paramagnetic salt (Ref 4). The specimen (21) of the metal under investigation was in the form of a wire 0.1 - 0.4 mm in diameter and 5-10 mm long. One end of the wire was attached to a silver rod (20) pressed into a block of the paramagnetic salt (10). In order to reduce the supply of heat to the working block a similar buffer block (8) was placed as shown in Figure 1. The lower end of the specimen was attached to the silver extension arm (16) which in its turn was attached to the iron core (24) of the electromagnet. To prevent the

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S/120/60/000/01/039/051

E032/E314

Determination of the Elastic Limit of Metals at Ultralow Temperatures

heating of the specimen by light, special diaphragms (1) were inserted and the specimen was screened by the glass tube (22) covered with silver paste which was in contact with the working block (10). The electromagnet can produce stresses of up to 100 g. The specimen was surrounded by the solenoid (13) which produced an axial magnetic field of 350 Oe at 0.5 A. The electrical resistance was measured by the induction method described by Samoylov in Ref 5 with the aid of the three coils (15), (23), having a large number of turns and the two coils (14) made of a super-conducting wire and directly connected with the specimen. The elastic limit was determined as follows. As soon as the lowest temperature due to the demagnetisation of the salt was reached, a preliminary determination was made of the rate of heating of the working block of salt due to the natural leak of heat. Next, a determination was made of the critical magnetic field for which the specimen goes over from superconducting to the normal state as a function of temperature. The magnetic field of

Card2/3

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69092

S/120/60/000/01/059/051

Determination of the Elastic Limit of Metals at Ultralow Temperatures

the solenoid is adjusted so that heating of the specimen through 0.1 - 0.2 K from the starting temperatures causes its transition from the superconducting to the normal state. The stress is then applied to the specimen with the aid of the electromagnet and the natural heating of the specimen during the extension should be less than 0.1 K. When the resistance of the specimen appears, the load on it is noted and this determines its thermal elastic limit. It was found that the minimum value of the elastic limit of monocrystalline specimens of tin is 200 g/mm. There are 2 figures and 8 references, 4 of which are Soviet, 2 German and 2 English.

ASSOCIATION: Fiziko-tehnicheskiy institut AN SSSR (Physico-engineering Institute of the Ac.Sc., USSR)

SUBMITTED: October 10, 1958

Card 3/3

GUBANOV, A.I.; KRIVKO, N.I.; REYNOV, N.M.

Experimental determination of polaron mass in cuprous oxide. Zhur.  
eksp.i teor.fiz. 38 no.2:341-344 F '60. (MIRA 14:5)

1. Leningradskiy fiziko-tekhnicheskiy institut Akademii nauk SSSR.  
(Copper oxide) (Semiconductors)

10/20/2000

82598

S/056/60/039/01/06/029  
B006/B070

24.2200

AUTHORS: Kogan, A. V., Kul'kov, V. D., Nikitin, L. P., Reynov, N. M.,  
Sokolov, I. A., Stei'makh, M. F.

TITLE: The Polarization of  $\text{Sc}^{46}$  Nuclei in Iron

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, 1960,  
Vol. 39, No. 1 (7), pp. 47-52

TEXT: B. N. Samoylov, V. V. Sklyarevskiy and Ye. P. Stepanov (Refs. 8-10) succeeded in polarizing the nuclei of a number of weakly magnetic elements alloyed with ferromagnetics. They discovered the possibility of orienting the nuclei of many elements including scandium. In the present paper, the first results found by the authors on the orientation of  $\text{Sc}^{46}$  introduced into iron are published. Fig. 1 shows a schematic cross section of the apparatus employed for the purpose. Its description is given in the introduction. To check the working of the apparatus, experiments were first made on the orientation of  $\text{Co}^{60}$  in iron ( $\leq 0.02\% \text{ Co}$ ) which are described in detail. Fig. 2 shows the asymmetry of the gamma

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82598

The Polarization of  $\text{Sc}^{46}$  Nuclei in Iron

S/056/60/039/01/06/029  
B006/B070

radiation of  $\text{Co}^{60}$  as a function of temperature. The asymmetry is characterized by  $\epsilon = [I(\pi/2) - I(0)] / I(\pi/2)$ . Next, the experiments carried out on scandium are described. The neutron irradiated scandium was introduced as a metal into pure iron (Sc concentration  $\leq 0.5\%$ ). A large number of asymmetry measurements of the gamma radiation from  $\text{Sc}^{46}$  were made in the temperature range of from 0.03 to 0.015°K. At the lowest temperatures  $\epsilon = 2.5\%$ . The sign of the asymmetry agreed with the known dipole character of the cascade gamma transitions in  $\text{Ti}^{46}$ . Fig. 3 shows the asymmetry of gamma radiation for temperatures of the cooling salt between 0.025-0.03°K.  $\epsilon$  was also measured for other temperatures. At 0.04-0.05°K,  $\epsilon$  was 1%, at  $\sim 1.2^\circ\text{K}$ , however, it was 1.8%, showing that the temperature dependence of the asymmetry of gamma radiation for small values of  $1/T$  cannot be determined with sufficient accuracy. The magnetic moment of  $\text{Sc}^{46}$  was not measured. Still, it can be estimated with sufficient accuracy to be 3.5 nuclear magnetons, from which the effective magnetic field on  $\text{Sc}^{46}$  nucleus in iron for  $1/T = 25$  is found to be  $H_{\text{eff}} \approx 10^5$  oersteds. The

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82598

The Polarization of  $\text{Sc}^{46}$  Nuclei in Iron

S/056/60/039/01/06/029  
B006/B070

possible errors in this determination are then discussed. They are related to the errors in the determination of nuclear magnetic moments,  $\epsilon$ , and  $T$ , and the error resulting from imperfect domain orientation.

Taking these into account  $H_{\text{eff}}$  lies within the limits  $3.0 \cdot 10^5 \leq H_{\text{eff}} \leq 4.0 \cdot 10^5$  oe for  $\text{Co}^{60}$  and  $0.70 \cdot 10^5 \leq H_{\text{eff}} \leq 1.30 \cdot 10^5$  oe for  $\text{Sc}^{46}$ . Finally, ✓

the possible investigations of  $\beta\gamma$ -correlation for oriented  $\text{Sc}^{46}$  nuclei are very briefly discussed. The authors thank Professor N. P. Sazhin for making available metallic scandium, and Professor A. Z. Dolginov for the derivation of the asymmetry formula. G. R. Khutsishvili and L. M. Shestopalov of Fiziko-tekhnicheskiy institut AN SSSR (Physicotechnical Institute of the AS USSR) are mentioned. There are 3 figures and 21 references: 7 Soviet, 8 American, 1 Canadian, 3 Dutch, and 2 British.

ASSOCIATION: Leningradskiy fiziko-tekhnicheskiy institut Akademii nauk SSSR (Leningrad Physicotechnical Institute of the Academy of Sciences of the USSR)

SUBMITTED: February 20, 1960

Card 3/3

KRIVKO, N.I.; REYNOV, N.M.

Experimental determination of polaron mass in cuprous oxide.  
Zhur. eksp. i teor. fiz. 39 no. 6:1850 D '60. (MIRA 14:1)

1. Leningradskiy fiziko-tekhnicheskoy institut Akademii nauk  
SSSR. (Copper oxide) (Semiconductors)

KOGAN, A.V.; KUL'KOV, V.D.; NIKITIN, L.P.; REYNOV, N.M.; SOKOLOV, I.A.  
STEL'MAKH, M.F.

Polarization of some radioactive isotopes in alloys  
containing iron. Zhur. eksp. i teor. fiz. 40 no.1:109-113 Ja  
'61. (MIRA 14:6)

(Iron alloys) (Magnetic fields)



25180

S/056/61/040/006/001/031  
B'02/B2'4

24 7700

AUTHORS: Kolchin, A. M., Mikhaylov, Yu. G., Reynov, N. M.,  
Rumyantseva, A. V., Smirnov, A. P., Totubalin, V. N.

TITLE: Investigation of the destruction of superconductivity in  
thin tin films

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 40,  
no. 6, '96', 1543 - 1550

TEXT: The possibilities of practically applying superconduction effects  
(cf. Proc. IRE, 42, 1253 and 1395, '960) make it of interest to study the  
destruction of the superconductivity of thin metal films as caused by cur-  
rent. Subject to this work was to elucidate the regularities of the destruc-  
tion of superconductivity by a magnetic field or a current, as well as to  
describe the laws governing the return of the film to the superconducting  
state on removal of the field (current) in a larger temperature interval.  
The investigations were limited to films of thicknesses ( $\sim 8$ )  $10^{-5}$  cm  
under the action of current pulses of different shapes and lengths and at  
temperatures near the critical one. The results of the measurements have

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S/056/61/040/006/00 /03  
B:02/B2'2

Investigation of . . .

been presented earlier to the Seventh All - Union Conference on Low Temperature Physics in Khar'kov (June 1960). The films were prepared by vacuum sputtering ( $10^{-6}$  mm Hg). Fig. 1 shows the appearance of such a sample with the current and voltage contacts. The backing was glass or mica, chemically purified and heated in vacuo. The film thickness was determined by weighing; the breadths of the films were 0.10 - 0.25 mm. The resistances of the films amounted to  $30 \pm 10$  ohms at room temperature. Direct current experiments were done with a potentiometer circuit with galvanometer or rheochord with automatic recording of current and voltage by recording potentiometers of the types ЭПН-09М (EPP-09M) and ЭПН-10М (EPP-10M). The transition of the sample to (from) the superconducting state was established by an oscillographic apparatus (use of an oscillograph of the type ЭНО-1 (ENO-1)) which allows to observe and photograph the volt-ampere characteristics. Generators of the types ГИ-2 (GIS-2) and ГИ-3М (GI-3M) were used to study the destruction of superconductivity by pulsed current (duration of the pulse 0.1 - 10 sec). The current and voltage were recorded simultaneously by a double-ray oscilloscope of the type ДЭО-1 (DESO-1). In direct current operation at 4.2°K. films of resistance of 1 - 6 ohms and resistivity 0.4 - 1  $\mu\text{ohm/cm}$  were investigated.

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B102/B214

Investigation of ...

The critical temperature of these films for a measuring current of 40 ma lay between 3.75 and 3.85°K and was therefore higher than for massive tin. The experiments showed that with increasing current the resistance increased first very slowly, and for currents over 10 ma more rapidly. The transition of the sample from the superconducting to the normal state on increasing current was investigated by taking measurements with triangular pulses. The influence of thermal effects on the transition could also be studied in this way. It was found that the sample was heated even by a rise and fall in the pulse of 0.1 μsec each. This heating is attributed to the appearance of a hysteresis on transition from normal to the superconducting state. Fig. 8 shows a volt - ampere characteristic (pulse growth 0.5 μsec, fall 0.1 sec, sequence 50 cps,  $I_{max} = 150$  ma). Further measurements were made by rectangular pulses of 0.1 - 10 μsec (front 0.05 - 0.15 μsec). Fig. 10 shows an oscillogram of the transitions of a sample from the superconducting to the normal state for a pulse length of 2 μsec (upper curve: current, lower: voltage). The following results were obtained from the studies: The regularities found hold for films of such thicknesses for which the current destroying the superconductivity depends only slightly on the thickness.

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B102/B214

Investigation of ...

For thinner samples, other regularities are to be expected. Under the action of very short pulses the transition is greatly affected by Joulean heat and heat caused by Foucault currents. Besides the hysteresis of thermal effects on transition from the normal state to the superconducting state, there is also observed a hysteresis which is attributed to the existence of superconducting domains in the normal phase. The duration of the spontaneous transition to the superconducting state is considerably smaller than that of the destruction of the intermediate state arising when the superconducting state is destroyed by current. The duration of transition from the superconducting to the normal state depends on the amplitude of the current in the pulse. For sufficiently large amplitudes, the transition time is  $t < 5 \cdot 10^{-9}$  sec. A. A. Galkin is mentioned. There are 12 figures and 10 references: 4 Soviet-bloc and 6 non-Soviet-bloc. The most important references to English-language publications read as follows: J. W. Bremer, V. L. Newhouse, Phys. Rev. 116, 309, 1959 and Phys. Rev. Lett. 1, 282, 1958; C. R. Smallman et al. Proc. IRE, 48, 1562, 1960.

ASSOCIATION: Leningradskiy fiziko-tekhnicheskii institut Akademii nauk SSSR  
(Leningrad Institute of Physics and Technology of the Academy  
of Sciences, USSR)

Card 4/5

S/120/62/000/003/032/048  
E032/E114

AUTHORS: Grigor'yev, A.D., Mikhaylov, Yu.G., Reynov, N.M.,  
Rumyantseva, A.V., and Smirnov, A.P.

TITLE: An apparatus for producing films by evaporation in  
vacuo

PERIODICAL: Pribery i tekhnika eksperimenta, no.3, 1962, 133-135

TEXT: A description is given of a laboratory apparatus  
(including a full sectional drawing) for the production of films  
of metals and dielectrics. It can be used to evaporate five  
different materials and to obtain (in a single pumping cycle) multi-  
layer systems consisting of films with ten different  
configurations in any desired sequence. The thickness of the  
films is determined in situ from their resistance. Alundum  
evaporators heated directly by tungsten spirals are employed  
(maximum temperature 1700 °K, 160 W). The pumping speed (oil  
diffusion pump) is 250 litres/sec and the working pressure is  
 $5 \times 10^{-6}$  mm Hg. The targets are cooled by liquid nitrogen.  
There are 3 figures.

Card 1/2

An apparatus for producing films...

S/120/62/000/003/032/048  
E032/E114

ASSOCIATION: Fiziko-tekhnicheskii institut AN SSSR  
(Physicotechnical Institute AS USSR)

SUBMITTED: November 14, 1961

Card 2/2

S/056/62/043/003/015/063  
B102/B104

AUTHORS: Kogan, A. V., Kul'kov, V. D., Nikitin, L. P., Reynov, N. M.,  
Stel'makh, M. F., Shott, M.

TITLE: Asymmetry in  $\beta$ -radiation from some nuclei polarized in an  
iron-containing alloy

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 43,  
no. 3(9), 1962. 828-830

TEXT: The authors measured the  $\beta$ -emission asymmetry of  $\text{Re}^{186}$ ,  $\text{Ir}^{192}$  and  
 $\text{In}^{114}$  nuclei polarized at 0.1-0.03°K in an iron alloy, using an apparatus  
described in ZhTF, 29, 1039, 1959 or ZhETF, 35, 295, 1958. The values of  
 $\mu_n H_{\text{eff}}$  ( $\mu_n$ -nuclear magnetic moment,  $H_{\text{eff}}$ - effective field acting on the  
nucleus) were determined from the asymmetry given as

$$\epsilon_{\beta}(T) = [W(0^\circ) - W(\pi)] / [W(0^\circ) + W(\pi)] = A(v/c)f_1,$$

when, for allowed  $\beta$ -transitions,  $W(\vartheta) = 1 + A(v/c)f_1 \cos \vartheta$ .  $W(0^\circ)$  is the  
 $\beta$ -radiation recording probability if the magnetic field is applied in the  
Card 1/3

Asymmetry in  $\beta$ -radiation from some...

S/056/62/043/003/015/063  
B102/B104

direction of the detector,  $W(\pi)$  is the same if  $\vec{H}$  has the opposite direction;  $A$  is a factor depending only on the spins  $I_1$  and  $I_0$  ( $I_1 \neq I_0$ ) of final and initial states,  $f_1$  - nuclear polarization coefficient,  $\vartheta$  - angle between the direction of nuclear polarization and that of particle emission. For Re and Ir the quantity  $10^{18} \mu_n H_{eff}$  was determined from the slope of the straight line  $\epsilon_\beta(1/T)$  giving  $8 \pm 1$  for Re and  $4 \pm 0.5$  for Ir. These values do not agree with the results of  $\gamma$ -anisotropy measurements ( $2.5 \pm 0.5$  and  $12 \pm 1.5$ ); i.e. the relation  $\epsilon_\beta(T) = A(v/c)f_1$  cannot be used. Since for these nuclei  $A < 0$  and  $\mu_n > 0$  it follows that  $H_{eff}$  will be negative. For Ir<sup>144</sup> also the nuclear spin relaxation time  $\tau_n$  in the field  $H_{eff}$  was determined. Up to  $\sim 0.1^\circ K$   $\tau_n \leq 70$  sec.  $\mu_n \leq 1.7 \pm 0.4$  nuclear magnetons and  $H_{eff}$  is also negative. There are 1 figure and 1 table.

ASSOCIATION: Fiziko-tekhnicheskiy institut im. A. F. Ioffe Akademii nauk SSSR (Physicotechnical Institute imeni A. F. Ioffe of the Academy of Sciences USSR). Institute of Nuclear Research of the Academy of Sciences Czechoslovak SSR (M. Shott)

Card 2/3



Asymmetry in  $\beta$ -radiation from some...

S/056/62/043/003/015/063  
B102/B104

SUBMITTED: April 13, 1962

/B

Card 3/3

GUTS, Z. A.; REYNOV, N. M.; KRIVKO, N. I.; SIDOROVA, T. A.; FOGEL', A. A.

Superconducting alloys in the system Nb - Zr. Fiz. tver. tela 5  
no.1:361-362 Ja '63. (MIRA 16:1)

1. Fiziko-tehnicheskii institut imeni A. F. Ioffe AN SSSR,  
Leningrad.

(Niobium-zirconium alloys) : (Superconductivity)

KOLCHIN, A.M.; KRIVKO, N.I.; REYNOV, N.M.

Experimental study of a superconducting Nb-Zr alloy at the  
frequency 9250 Mc. Zhur. eksp. i teor. fiz. 44 no.1:53-56 Ja '63.  
(MIRA 16:5)

1. Fiziko-tehnicheskiy institut imeni A.F.Ioffe AN SSSR.  
(Niobium-Zirconium alloys)

L 15530-63

EWP(q)/EWT(m)/BDS AFFTC/ASD JD

ACCESSION NR: AP3005233

S/0056/63/045/002/0001/0007

AUTHOR: Kogan, A.V.; Kul'kov, V. D.; Nikitin, L. P.; Reynov, N. M.;  
Stel'makh, M. F.

64  
59

TITLE: Measurement of the nuclear specific heats of iridium and rhenium in  
iron alloys

SOURCE: Zhur, eksp. i teor. fiz. v. 45, no. 2, 1963, 1-7.

TOPIC TAGS: Nuclear specific heat, iridium, rhenium, magnetic moment, effective  
magnetic field, Re, Ir

ABSTRACT: A method for measuring very small nuclear specific heats and for estimating nuclear relaxation times in alloys is described. Such measurements are of interest because they can be used to determine the effective magnetic field and the magnetic moment of radioactive isotopes. The specific heats of the alloys were measured by comparison with the specific heat of a cooling mixture consisting of 50% saturated aqueous solution of ceriummagnesium nitrate and 50% glycerin by volume, which in turn was determined in control experiments by comparison with the known specific heats of metallic cobalt and Fe-Co alloys with different concen-

Card 1/12

L 15530-63

ACCESSION NR: AP3005233

5

trations. The nuclear specific heats of Re-Fe and Ir-Fe alloys of various concentrations were measured. The effective magnetic fields acting on the nuclei of the alloying metals were found to be  $(6.7 \pm 0.7) \times 10^5$  Oe for Re and  $(1.35 \pm 0.3) \times 10^6$  for Ir. The magnetic moment of Ir-192 was found to be  $(1.8 \pm 0.6)$  nuclear magnetons. The possible errors of the procedure are estimated. The authors wish to thank Yu. M. Burdukov, A. A. Fogel, T. A. Sidorova, and Z. A. Guts for assistance in preparing the samples. Orig. art. has: 3 figures, 4 formulas, and 2 tables.

ASSOCIATION: Fizicheskoye-tekhnicheskoye institut im. A. F. Ioffe Akademii nauk SSSR  
(Physicotechnical Inst. Academy of Sciences SSSR)

SUBMITTED: 13Dec62

DATE ACQ: 06Sep63

ENCL: 02

SUB CODE: PH

NO REF SOV: 005

OTHER: 006

Card 2/2

REYNSALU, A. [Reinsalu, A.]; VAYSMAN, M. [Vaisman, M.], red.; PEDARI, Ya.  
[Pedari, J.], tekhn. red.

[Tallinn] Tallin. Tallin, Estonskoe gos. izd-vo, 1961. 163 p.  
(Tallinn) (MIRA 14:11)

PEYNALU, E. [Peinalu, E.]

Ways to improve the blasting operations in the stall and pillar.  
system of mining. Khim. i tekhn. gor. slon. i prod. ikh perer.  
no.13:27-36 '64. (MIRA 18:9)

ZAKHAROV, M.K.; BOYAR-SOZONOVICH, S.P.; SHUSTER, A.Ye.; REYNSBURG, A.M.;  
KURKHOV, S.M.

Reducing electric motors of construction finishing machines.  
Stroi. i dor. mash. 10 no.8:17-19 Ag '65. (MIRA 18:9)



BOYAR-SOZONOVICH, S.P.; ZAKHAROV, M.K.; KAMENYARZH, A.Ya.; REYNSBURG, A.M.;  
RYVKIN, V.L.

Development and application of new techniques for insulating the  
grooves of electrical machines using polymers. Energ. i  
elektrotekh. prom. no.1:31-34 Ja-Mr '63. (MIRA 16:5)

1. Odesskiy politekhnicheskii institut (for Boyar-Sozonovich,  
Zakharov). 2. Odesskiy zavod stroitel'no-otdel'nykh mashin.  
(for Kamenyarzh, Reynsburg, Rybkin).  
(Electric motors, Synchronous)

Subject : Cultivated Plants.

Author : Ref. Jour-Biologiya, No. 5, 1959, No. 20351

Editor :  
Editor :  
Editor :

Editor :

Abstract : the most productive. The hay yield in 1954 from the uncovered sowing of these mixtures was, respectively, 179.6 and 187.1 centners per ha, and from those under cover 124.7 and 146.2 cwt/ha. --G.N. Chernov

CARD : 2/2

REYNSHTEYN, B.

"Newspaper" without paper. Nauka i zhizn' 27 no. 4:42-43 Ap '60.  
(MIRA 14:5)

(Radio broadcasting)

REYNTAM, E. A. Cand Biol Sci -- "On the problem of the content of sugar and volatile aliphatic acids in the blood of cattle." Mos, 1961 (Mos Order of Lenin Agr Acad im K. A. Timiryazev). (KL, 4-61, 192)

KEYNTAM, E.A.

Volatile fatty acids and sugar in the blood of farm animals.  
Dokl. Akad. sel'khoz. 24 no. 6: 36-40 '59. (MIRA 12:9)

1. Moskovskaya veterinarnaya akademiya. Predstavlena akademikom  
N.F. Popovym.  
(Blood--Analysis and chemistry) (Blood sugar)  
(Acids, Fatty)

REYNTAM, L.Yu.

Soil districting as exemplified by southeastern Estonia [with  
summary in English]. Pochvovedenie no.8:34-44 Ag '58. (MIRA 11:9)

1.Estonskaya sel'skokhozyaystvennaya akademiya, g. Tartu.  
(Estonia--Soils)

REYNTAM, L. Yu., Cand Agr Sci -- (diss) "Soils of southeastern Estonia."  
Tartu, 1960. 44 pp with maps; 1 page of diagrams; (Estonian Agricultural Academy); 350 copies; free; (KL, 17-60, 164)

ROOMA, I.P.; REYNTAM, L.Yu. [Reintam, L.Y.]; KENDRA, Kh.E.

Utilization of the materials of a large-scale survey of land  
resources in the Estonian S.S.R. Pochvovedenie no.11:1-14  
N '63. (MIRA 16:12)

1. Pochvennyy otdel Instituta Estsel'khoz-proyekt i Estonskaya  
sel'skokhozyaystvennaya akademiya.



RCOMA, I.P. [Rooma, I.]; REYNTAM, L.Yu. [Reintam, L.]

Compiling large-scale soil maps in the Estonian S.S.R. Pochvovedenie  
no.3:30-35 Mr '62. (MIRA 15:7)

1. Estonskiy filial Vsesoyuznogo obshchestva pochvovedov.  
(Estonia—Soils—Maps)

REYNTAM, L.Yu. [Reintama, L.]; RAUKAS, A.

Changes in the mechanical, mineralogical, and chemical characteristics of turf-Podzolic soils on carbonate rich red-brown moraine.  
Pochvovedenie no.3:29-38 Mr '65. (MIRA 18:6)

I. Estonskaya sel'skokhozyaystvennaya akademiya i Institut geologii  
AN Estonskoy SSR.

U. BERNI, N. L., 1965

Problems of soil mineralogy at the 8th International Congress of  
Soil Scientists. Pochvovedenie no. 5:101-106 My '65.

(MIRA 18:5)

REYNUS, A.M., prof.

Use of shortened esophagoscopic tubes in direct laryngoscopy. Vest.oto.  
-rin. 20 no.4:105 J1-Ag '58 (MIRA 11:7)

1. Iz kafedry bolezney ukha, gorla i nosa Krymskogo meditsinskogo  
instituta.

(LARYNX-EXPLORATION)

REYNUS, A.M., professor

Inhalation of plaster during impression making. Stomatologiya 36  
no.4:72 J1-Ag '57. (MIRA 10:11)

1. Iz kafedry bolezney ukha, gorla, nosa Krymskogo meditsinskogo  
instituta,  
(DENTISTRY) (BRONCHI--FOREIGN BODIES)

POPOV, A. V.

Popov, A. V. "Cartilage from corpses preserved in formaldehyde as material for plastics," Trudy Kirovsk. med. in-ta im. Stalina, Vol. XII, 1948, p. 239-41

SO: U-3850, 16 June 53, (Letovsis 'Zhurnal 'nykh Statey, No. 5, 1949)

FEYNES, I. M.

Chem. Inst. Sverdlovsk, Ural Branch Acad. Sci., (-1946-).

"Polarographic Studies of Nitric Acid Solutions of Niobrium."

Zhur. Fiz. Khim. No. 7, 1946.

REINUS, L. M.

A. G. Stromberg and L. M. Reinus

"A Polarographic Study of Half-Wave Potentials of Substituents of quinones, phenones and Fuchsones" from "Zhurnal obshtchei Khimii" No. 9, 1946

The object of this article is to make a polarographic study of quinones, phenones, and fuchsones in order to explain the influence of substituents on the potential of the half-waves of these three groups of organic compounds. The work was begun at the suggestion of Prof. Dr. I. Y. Postovsky in order to explain the connection between the antibacterial properties of certain quinones and their physico-chemical properties.

Translation available

D 46934



REYNUS, R.M.

Daily rhythm of carbohydrate accumulation in leaves of *Primula Moorkroftiana* (Wall.) in relation to the developmental phase.  
Izv.Otd.est.nauk AN Tadzh.SSR no.9:143-147 '55. (MLRA 9:10)

1. Pamirskaya biologicheskaya stantsiya Instituta botanika AN  
Tadzhikskoy SSR.  
(Primroses) (Carbohydrate metabolism) (Leaves)

1. REYNUS, R. M.
2. USSR (600)
4. Altitude, Influence of
7. Nitrogen metabolism in plant leaves in the high mountain deserts of Pamir. Soob.  
TEAN SSSR No. 31, 1951.
9. Monthly List of Russian Accessions, Library of Congress, March 1953. Unclassified.

REYNUS, R. M.

Carbohydrate and nitrogen metabolism in the meadow plants of  
the Pamirs. Trudy Bot. inst. AN Tadzh. SSR. 18:202-233 '62.  
(MIRA 16:1)

(Plants—Metabolism) (Pamirs—Grasses)

REYNUS, R. M.

Biological Chemistry, Nutrition and Feeding (11110)

Izv. AN Tadzh. SSR, No 3, 1953, pp 99-107

REYNUS, R. M.

"Chemical Composition of Wild Plants Growing in Eastern Pamir With Respect to Their Value as Feeds" Plants growing in the high-altitude pastures of Eastern Pamir are high in soluble carbohydrates, hemicellulose and protein, which makes them valuable as feeds. The chemical composition of the plants depends on the altitude at which they grow. At high altitudes the carbohydrate, protein, and starch concentrations are greater.

SO: Referativnyy Zhurnal--Khimiya, No 1, 1 Jan 54; SO: (W-30785, 28 July 1954.)

RENNER, P.M.; GIBBY, W. S.

Carbohydrate metabolism in barley at various altitudes of the  
Famirs. Trudy Pam. biol. sta. 1:194-203 '63. (MIRA 17:10)

L 33566-66

ACC NR: AT6013450

SOURCE CODE: UR/3179/65/007/000/0159/0164

AUTHOR: Reynus, R. M.

ORG: none

TITLE: Dependence of carbohydrate metabolism shifts of plants on altitude

SOURCE: Vsesoyuznoye botanicheskoye obshchestvo. Problemy botaniki, v. 7, 1965. Voprosy biologii i fiziologii rasteniy v usloviyakh vysokogoriy (Problems of biology and physiology of plants at high altitudes), 159-164

TOPIC TAGS: plant ecology, plant metabolism, carbohydrate, agricultural crop, climatic influence

ABSTRACT: To study carbohydrate metabolism shifts of cultured plants taken from a temperate climate and introduced to the Pamirs, Nutans 027 barley was planted at the same time at the Leningrad Botanical Garden (sea level) and in the Pamirs at altitudes of 2320 m and 3860 m. Carbohydrate levels of plants were determined at different developmental stages. Barley grown in the Pamirs, particularly at 3860 m, displayed a marked increase of soluble carbohydrates, largely due to the high

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• L 33566-66

ACC NR: AT6013450

0  
saccharose level. Compared to barley plants grown in Leningrad, the saccharose level of barley leaves grown at 3860 m was 8 to 10 times higher and the saccharose level of barley leaves grown at 2320 m was 2 times higher. Within the natural distribution limits, the carbohydrate levels of plants do not change with different altitudes. However, the transfer of high altitude flora to a temperate climate or the transfer of a temperate climate plant to a high altitude affect plant metabolism, particularly carbohydrate metabolism. Only the soluble carbohydrate levels are affected, but the polymer (starch, hemicellulose) forms remain unchanged. Orig. art. has: 4 figures.

SUB CODE: 06/ SUBM DATE: none/ ORIG REF: 006/ OTH REF: 009

Card 2/2

PB

REYNUS, R. M., Cand Biol Sci (diss) -- "Carbohydrate metabolism of plants under the high mountainous conditions of the Pamir". Leningrad, 1960. 18 pp  
(Acad Sci USSR, Botanical Inst im V. L. Komarov), 300 copies (KL, No 14, 1960, 130)



REYNUS, Roza Mikhaylovna; NASYROV, Yu.S.; osv. red.

[Carbohydrate metabolism in plants of the high mountains  
of the Pamirs] Uglevodnyi obmen rastenii v usloviakh  
vysokogorii Pamira. Dushanbe, Izd-vo AN Tadzhik.SSR,  
1964. 136 p. (MIRA 18:3)

REYNVAL'D, A.A.

Age-related changes in the incidence of pulmonary tuberculosis  
in Tallinn from 1947-1960. Probl.tub. no.8:3-11 '61.

(MIRA 15:5)

1. Iz Instituta eksperimental'noy i klinicheskoy meditsiny AN  
Estonskoy SSR (dir.-- kand.med.nauk P.A. Bogovskiy, nauchnyy  
konsul'tant -- prof. A.D. Semenov).

(TALLINN--TUBERCULOSIS)

REYNVALD', A. A., Cand Med Sci -- (diss) "Functional condition of the nervous system in patients with pulmonary tuberculosis under conditions of clinical and sanatorium treatment." Leningrad, 1960. 23 pp; (Leningrad State Order of Lenin Inst for Advanced Training of Physicians im S. M. Kirov); 300 copies; price not given; (KL, 23-60, 128)

REYNVAL'D, A.A. [Reinvald, A.]; SAUEMYAGI, L.R. [Sauemagi, L.]

Detection of tuberculosis in elderly persons. Trudy TSIU  
63:135-139 '63. (MIRA 17:9)

1. Institut eksperimental'noy i klinicheskoy meditsiny AN  
Estonskoy SSR i Respublikanskiy protivotuberkuleznyy dispanser  
Estonskoy SSR.

REYNVAL'D, N.I.

Physicians should study medical psychology. Vop. psikhol.  
10 no.2:67-78 Mr-Ap '64. (MIRA 17:9)

1. Meditsinskiy institut, Dnepropetrovsk.

REYNVAL'D, N.I.

Treatment of problems in the psychology of personality from the point  
of view of Pavlov's reflex theory. Vop. psikhol. 4 no.2:123-130 Mr-Apr  
'58. (MIRA 11:5)

1. Kafedra logiki i psikhologii Tartuskogo universiteta.  
(Personality)

REYNVAL'D, O.A., inzh.

Experience in the operation of closed-loop power distribution networks in Riga. Elek. sta. 35 no.2:69-72 F '64.

(MIRA 17:6)

REYNVAL'D, O.A. [Reinvald', O.], inzh.; AYZENBERG, S.I., doktor tekhn.nauk;  
TREYVISH, Ye.S., kand.tekhn.nauk

Operation of closed-loop electrical networks. Elek. sta. 36  
no.8:67-74 Ag '65. (MIRA 18:8)

1. Gorelektroset' Rigi (for Reynval'd). 2. Leningradskiy inzhenerno-  
ekonomicheskoy institut imeni Pal'miro Tel'yatti (for Ayzenberg,  
Treyvish).



FEDOSENKO, R.Ya., kand. tekhn. nauk (Moskva); REYNVALD, O.A. [Reinvalds, O.]  
(Riga); GNEVKO, D.G., inzh. (Minsk); ZAROZHNYI, A.M., inzh. (Minsk);  
VOYTKO, A.M., inzh. (Minsk); FEDOROV, Ye.Ya., inzh. (Minsk);  
AYZENBERG, B.L., doktor tekhn. nauk (Leningrad)

Protection of closed-loop networks. Elektrichestvo no.2:  
83-89 F '65. (MIRA 18:3)

REYNYUK, I. I.

PA 245T84

USSR/Meteorology - Condensation Nov 52

"Redistribution of Water Vapor in the Atmosphere,  
I. I. Reyntyuk, Magadan Meteorological Serv of  
Dal'stro

"Meteorol i Gidrol" No 11, pp 27-30

Conducted experiments on condensation of water  
vapor. Concludes that redistribution of water  
vapor in the atmosphere with change in temper-  
ature possesses very great significance, which

245T84

is not limited only to the atmosphere. Redistri-  
bution related generally to gas mixtures and  
possibly to fluid solutions. This phenomenon  
deserves further study.

245T84

ARGENTIN, N.D.; LUDKOVSKIY, N.G.; BOLOTIN, A.A.; BONARTSEVA, N.N.;  
BOGDANOVA, M.V.; GOLOVENKO, I.P.; IL'BITENKO, K.I.;  
KIRPONOS, Ye.M.; KARAFETYAN, K.G.; KIRSAHOVA, I.A.;  
KUZNETSOV, A.L.; KORESHNIKOVA, N.F.; KORZHEVSKAYA, T.I.;  
NEMIROV, N.G.; NIKONOVA, T.K.; NAZAROV, V.N.; PISAREVA, I.A.;  
POPOV, S.A.; PRONINA, N.A.; PAKHMAN, M.Ye.; REYFOLSKIY, S.N.;  
ROGACHEV, Yu.N.; SOSNINA, V.D.; STARSHINOV, B.M.; KHUDYAKOV,  
B.Ya.; SHELEKASOV, V.I.; PARKOV, V.P., podpolkovnik, red.;  
MURAV'YEV, A.I., polkovnik, red.; CHAPAYEVA, R.I., tekhn. red.

[Relics of military glory] Relikvii boevoi slavy. Moskva,  
Voenizdat, 1962. 166 p. (MIRA 15:8)

1. Nauchnyye sotrudniki Tsentral'nogo muzeya Sovetskoy Armii  
(for all except Murav'yev, Chapayeva).  
(Military museums)

REYS, F.

Redesigning the connector for 6S275L marine engine compressors.  
Rech.transp. 18 no.12:47-48 D '59. (MIRA 13:4)

1. Inzhener po ratsionalizatsii Podtesovskoy remontno-ekspluatatsion-  
noy bazy. (Marine diesel engines)

100  
PETROV, V.V.; GROTTGUS, T.; REYS, F.F.; STRAKHOV, P.I.; BOLOTOV, A.T.;  
TELEPMOV, V.D.; BEL'KIND, L.D., professor, redaktor; KUZNETSOVA,  
Ye.B., redaktor; TUMARKINA, N.A., tekhnicheskii redaktor

[Selected works on electricity] Izbrannye trudy po elektrichestvu.  
Pod red. i s primечanіami L.D. Bel'kinda. Moskva, Gos. izd-vo  
tekhniko-teoret. lit-ry, 1956. 299 p. (MLR 10:4)  
(Electricity--Early works to 1850)

L 22338-66 EWT(m)/EWA(d)/EWP(t)/EWP(k) IJP(c) JD

ACC NR: AP6013517

SOURCE CODE: UR/0120/66/000/002/0151/0153

AUTHOR: Malkin, O. A.; Reys, I. A.; Stepanov, A. M.

ORG: All-Union Electrotechnical Institute, Moscow (Vsesoyuznyy elektrotekhnicheskiy institut)

TITLE: Miniature probe for measuring variable magnetic fields *qM*

SOURCE: Priory i tekhnika eksperimenta, no. 2, 1966, 151-153

TOPIC TAGS: plasma probe

ABSTRACT: A miniature magnetic probe consisting of copper wire wound on nichrome wire 0.15 mm in diameter is described (see Fig. 1). The leads are twisted and recessed 1 cm and covered with organic material which hardens upon drying. The probe is placed into a Kovar sleeve whose outside diameter is 5 mm and is covered with a glass case which isolates the probe coil from plasma. The thickness of glass where the probe is located is 0.2 mm. The sleeve is inserted into a rubber cork which establishes a vacuum equal to  $10^{-5}$  torr. The leads are connected to a shielded coaxial cable reducing the portion exposed to fields to 10-12 mm. Five probes of different size were made. These include probes 1.2 and 1.6 mm in outside diameter with 70 and 160 turns, respectively. Measurements with a 1.2 mm-o.d. probe of mag-

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UDC: 621.317.42

L 22338-66

ACC NR: AP6013517

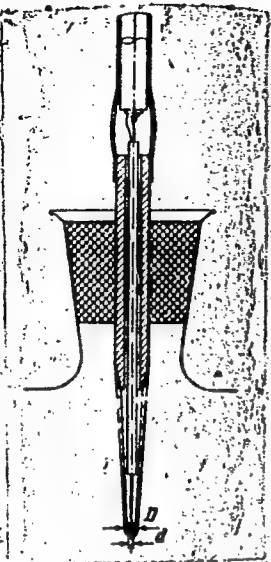


Fig. 1. Miniature magnetic probe

netic fields whose strength was equal to 2400 gauss were accurate to within 15–20%.  
Orig. art. has: 4 figures.

[BD]

SUB CODE: 09/ SUBM DATE: 09Nov65/ ORIG REF: 004/ OTH REF: 001/ ATD PRESS:

Card 2/2 dda

4241

REED, H. . .

"A New Method for Obtaining Biogenic Amines and Its Use in the Investigation of Biological Materials." Cand Biol Sci, Leningrad State Order of Lenin U Acad A. A. Zhdanov, Leningrad, 1953. (KL, No 10, Mar 55)

So: Sum. No 670, 20 Sept 55 - Survey of Scientific and Technical Dissertations Defended at USSR Higher Educational Institutions (15)



REYZENKIND, IOSIF YAKOVLEVICH

N/5  
621.25  
.B3

Stereofotogrammetricheskaya s"yemka kar'yerov (Stereophotogrammetric survey of open cut mines, by) I. Ya. Reyzenkind R. R. Sinanyan. Moskva, metallgizdat, 1956

177, (3) p. illus., diags., tables.

"Literatura": p. (179)

REYS, N.V.

New method for the microdetermination of thallium in urine, blood  
and feces. Lab.delo 3 no.6:12-16 N-D '57. (MIRA 11:2)

1. Iz kafedry biologicheskoy khimii (zav. - prof. L.N.Lepin) Samarkand-  
skogo meditsinskogo instituta imeni I.P.Pavlova.  
(THALLIUM) (URINE--ANALYSIS AND PATHOLOGY)  
(BLOOD--ANALYSIS AND CHEMISTRY)

AUTHORS: Lapin, L. N., Reys, N. V.

SOV/75-13-4-8/29

TITLE: Application of Diphenyl Carbazone in the Photometric Determination of Copper in Iron and Steel (Primeneniye difenilkarbazona dlya fotometricheskogo opredeleniya medi v zheleze i stali)

PERIODICAL: Zhurnal analiticheskoy khimii, 1958, Vol. 13, Nr 4, pp. 426-429 (USSR)

ABSTRACT: In recent years, a number of photometric methods were suggested for the determination of copper in iron and steel (Refs 1-9), many of them, however, require special apparatus and reagents difficult to obtain. The authors found that the extremely sensitive reaction of copper with diphenyl carbazone under formation of a complex of low solubility in water is considerably more suited as compared with the methods of micro-determinations of copper described in publications. The formation of the complex is highly dependent on the pH-value. The best conditions are to be found about a pH of 4-5. The copper complex of diphenyl carbazone is not soluble in water and only difficultly soluble in ethanol, ether and carbon tetrachloride, whereas it is well soluble in benzene and its homologs. The red-colored solutions of the complex in benzene obey the law

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SOV/75-13-4-8/29

Application of Diphenyl Carbazone in the Photometric Determination of Copper in Iron and Steel

of Lambert - Beer. Hence, they can be determined by quantitative photometric methods. Under the conditions of analysis diphenyl carbazone with the following cations does not form compounds soluble in benzene:  $\text{Ag}^+$ ,  $\text{AuCl}_4^-$ ,  $\text{Zn}^{2+}$ ,  $\text{Al}^{3+}$ ,  $\text{Sn}^{2+}$ ,  $\text{V}_2\text{O}_7^{4-}$ ,  $\text{Sb}^{3+}$ ,  $\text{Bi}^{3+}$ ,  $\text{WO}_4^{2-}$ ,  $\text{UO}_2^{2+}$ ,  $\text{F}^-$ ,  $\text{Mn}^{2+}$ ,  $\text{Fe}^{2+}$ ,  $\text{Fe}^{3+}$ ,  $\text{Co}^{2+}$ ,  $\text{Ni}^{2+}$ ,  $\text{Cr}^{3+}$ ,  $\text{PtCl}_6^{2-}$ ,  $\text{B}_4\text{O}_7^{2-}$ ,  $\text{Ti}^{4+}$ ,  $\text{Tl}^+$ . Diphenyl carbazone

reacts with mercury only in the presence of chlorides, whereas with copper, molybdenum, cadmium and lead it reacts only at very high concentrations of these elements. The reaction is very sensitive and permits the photometric proof of  $0,1\mu\text{g}$  of copper. In the quantitative determination of copper in steels and iron according to this method, the iron is kept in solution in a complex state by a surplus of primary sodium phosphate and ammonia. The error of determination does not exceed 4%. As this reaction is extremely sensitive, the apparatus has to be kept carefully clear of possible copper traces. The preparation of the initial solutions and the exact way of carrying out the determination of copper in iron and steels according to this method is described in detail, as well as the results of the

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SOV/75-13-4-8/29  
Application of Diphenyl Carbazone in the Photometric Determination of Copper  
in Iron and Steel

determination of copper in different kinds of steel and iron.  
There are 2 figures, 2 tables, and 12 references, 9 of which  
are Soviet.

ASSOCIATION: Samarkandskiy meditsinskiy institut (Samarkand Medical  
Institute)

SUBMITTED: June 25, 1956

1. Copper--Determination 2. Diphenyl carbazones--Applications  
3. Iron--Analysis 4. Steel--Analysis 5. Photometry  
--Equipment

Card 3/3

LAPIN, L.N., prof.; REYS, N.V., dotsent

Determination of potassium iodide in table salt by means of a  
reaction between the complex ion  $I_2Cl^-$  and brilliant.green. Gig i san.  
25 no.4:66-71 Ap '60. (MIRA 13:8)

1. Iz kafedry biologicheskoy khimii Samarkandskogo meditsinskogo  
instituta imeni akad. I.P. Pavlova.  
(SODIUM CHLORIDE) (POTASSIUM IODIDE)

LAPIN, L.N.; REYS, N.V.

Use of diphenylcarbazone for the photometric determination of  
copper in iron and steel. Zhur.anal.khim. 13 no.4:426-429  
Jl-Ag '58. (MIRA 11:11)

1. Samarkandskiy meditsinskiy institut.  
(Steel--Analysis) (Photometry) (Formic acid)

Reys, N.V.

USSR/Analytical Chemistry - Analysis of Organic Substances

G-3

Abs Jour : Referat Zhur - Khimiya, No 2, 1957, 4848

Author : Reys, N.V.

Inst : Samarkand Medical Institute

Title : New Reaction for Amines and Its use in Qualitative and Quantitative Analysis.

Orig Pub : Sb. nauchn. tr. Samarkandsk. med. in-t, 1956, 11, 117-124

Abstract : It was found that on action of NaBrO on primary, secondary and tertiary amines there are formed bromamines which react with KI to set free an amount of  $I_2$  that is equivalent to the amine. On the basis of this reaction there has been worked out a method for the qualitative and quantitative determination of amines. The analysis is carried out in a specially designed apparatus, consisting of a test tube, 2.5-3 cm in diameter, with a stopper into which is inserted a tube fitted with a funnel, and a Kjeldahl trap, two U-tubes and a water pump. For a

Card 1/2

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TSETLIN, V.M., kand.khim..nauk; REYSAKHOV, I.L., kand.tekhn.nauk

Homogram enabling to determine the speed of floating of dust particles  
in the Stokes' field at various temperatures of the air. TSvet. met.  
33 no.11:42-44 N '60. (MIRA 13:11)

(Fly ash)

REYSEL'MAN, S.D.

Nephrotic syndrome and its clinical significance. Klin.med.  
38 no.7:21-26 '60. (MIRA 13:12)

(KIDNEYS—DISEASES)

REISER, A.

The dipole moments of methoximes. A. Reiser, A. Jechle, and K. Hyvok (Tech. Univ. Prague). *Collection Czech. Chem. Commun.* 16, 13-23 (1951).—Methoximes are colorless, oily liquids of pleasant odor, stable in the pure state, but less pure samples deteriorate slowly under the influence of light. Benzophenone methoxime is cryst. and decamps. before melting. Consts. for pinacolone and cyclopentanone methoximes are, resp.: b.p./mm. Hg 52.5/50, 56/10;  $d_4^{20}$  0.8365, 0.9175;  $n_D^{20}$  1.4209, 1.4560;  $n_F - n_D$  0.03863, 0.03728;  $[R]_D^{20}$  exptl. 39.151, 32.456, calcd. 39.31, 32.36;  $\alpha_D^{20}$  2.780, —;  $\mu$ , 0.98, —. The  $d_s$ , dielec. consts., and polarization of benzene solus. of the methoximes are tabulated. The dipole moments of the methoximes in dil. soln. ( $\mu_s$ ) and in the pure liquid ( $\mu_l$ ) of the following are, resp.: acetone 1.172, 1.20; 2-butanone 1.118, 1.19; pinacolone 0.933, 0.98; cyclopentanone 1.262, —; cyclohexanone 1.278, 1.25; benzaldehyde 0.630, 0.83; acetophenone 0.700, 0.93; benzophenone 0.389, —; cyclohexanone ethoxime 1.206, 1.22. The calcd. and exptl. dipole moments are compared. The slopes of the straight lines, the  $s$  values, are obtained by plotting the differences between the dipole moments of the halides  $RX$  and  $MeX$  vs. the electronic refractions,  $R$ , of  $C-Cl$ ,  $C-Br$ , and  $C-I$  bonds and drawing straight lines through representative points of analogous sols. ( $s = \text{const.}$ ) to the origin (thus  $\mu_l = 0$  for  $R = 0$ ). The  $s$  values ( $\mu_l = \alpha s$ , where  $\mu_l$  is an interaction term and  $\alpha$  is the polarizability of the functional group) are as follows: Me 1.0, dimethyl 2.2, trimethyl 3.1,  $\alpha$ -Me 0.5,  $\beta$ -Me 0.5,  $\text{tert-Me}$  3.1, cyclopentenyl 3.1, cyclohexenyl 3.3, phenyl 2.2. The relatively low dipole moments of the methoximes prove that the Me group is attached to O, since  $N$ -Me ethers of the oximes would contain a semipolar bond with charges on N and O and would be much more polar. Minor variations in the dipole moments of aliphatic and allylic methoximes are attributed to inductive effects and steric factors. The behavior of aromatic members is explained by mesomerism, and it was noted that the dipole moment of the methoximes is proportional to the refractive exaltation.

W. H. P.

REYSEN, L.A., Cand Med Sci -- (diss) "Certain clinico-experimental  
<sup>0045</sup>  
study of higher nervous activity in schizophrenia patients."

Vitebsk, 1957, 13 pp (Minsk State Med Inst) (KL, 27-58, 118)

REYZEL'MAN, S.D., prof. (Khar'kov)

Treating nephritis with Rauwolfia alkaloids. Terap.arkh. 31  
no.6:36-44 Je '59. (MIRA 12:9)

(RAUWOLFIA ALKALOIDS, ther.use,  
nephritis (Rus))  
(NEPHRITIS, ther.  
rauwolfia alkaloids (Rus))